

## RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte VALERIE SUE ADAMS,  
EMMETT DUDLEY CRAWFORD,  
MICHAEL EUGENE DONELSON  
and DOUGLAS STEPHENS MCWILLIAMS

MAILED  
JUL 3 0 2007  
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BOARD OF PATENT APPEALS  
AND INTERFERENCES

Appeal 2007-1945  
Application 10/669,215  
Technology Center 1700

Oral Hearing Held: July 11, 2007

Before CHUNG K. PAK, CHARLES F. WARREN, and LINDA M. GAUDETTE, Administrative Patent Judges

ON BEHALF OF THE APPELLANT:

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### 36 ALSO PRESENT:

JOE ARAND  
ADAM SWAIN

Appeal 2007-1945  
Application 10/669,215

1                   The above-entitled matter came on for hearing on Wednesday,  
2 July 11, 2007, commencing at 10:00 a.m., at the United States Patent and  
3 Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Deborah  
4 Rinaldo, RPR, Notary Public, CCR No. 0315067.

5                   THE CLERK: Calendar number 15, Appeal number 2007-  
6 1945. Attorney Mr. Nhat Phan.

7                   JUDGE PAK: Mr. Phan, we have two interns who are going to  
8 observe the hearing, Mr. Adam Swain and Joe Arand. And we have a court  
9 reporter, Debbie Rinaldo, who is going to transcribe the hearing, and the  
10 transcript will become part of the record.

11                  You may start any time you wish.

12                  MR. PHAN: Thank you, Judge Pak. My name is Nhat Phan.  
13 I'm here for the appellant Valerie Adams.

14                  There are four rejections in the case, but I think for simplicity,  
15 we can discuss them -- we can group them and discuss them as two. One is  
16 anticipation. Two is based on obviousness.

17                  For the anticipation rejection, we believe that the essential  
18 question really is whether the main reference has been properly applied. I  
19 believe that it's Sublett, whether the range of 10 to 100 parts per million  
20 titanium is sufficiently specific to describe the claimed range of 1 to 30.

21                  Our opinion, of course, it really doesn't. There is some overlap  
22 there. And when there is an overlap and there is some evidence of record  
23 that suggests there may be some unexpected results associated with the  
24 range, we think, if anything, the appropriate inquiry ought to be under  
25 obviousness rather than anticipation.

1           There is a recent case I have on that. It's not in the -- it's not in  
2 our brief or anything. If you would like it, I can provide copies for you now.  
3 But if it's not an important point for the Board, we can move on.

4           JUDGE WARREN: What's the case?

5           MR. PHAN: That's the Atofina case that came out of the  
6 federal circuit about a year ago.

7           JUDGE PAK: We are aware of that case. So you can move on.

8           MR. PHAN: Thank you.

9           Now, the second rejection or group of rejection is the  
10 obviousness rejections. I think the essential question under that or at least  
11 our disagreement with the examiner really comes down to, I believe,  
12 whether the results that have been presented are unexpected or not.

13           The results that we allege to be unexpected, it's a combination  
14 of effects. One is reduced yellowness and the combination of a polyester  
15 and a polycarbonate. Number two is improved melt strength, and number  
16 three is improved thermal stability.

17           Going back little bit, as the Board may be aware, when you  
18 have polyester by itself and polycarbon by itself, those two resins or  
19 polymers can be clear or sufficiently clear.

20           But when you blend them together, there is some interaction  
21 that causes the blend to become yellow. And there is some art out there that  
22 suggests that that yellowness can be attributed to that titanium catalyst that's  
23 used in making the polyester.

24           The art has tried different approaches to fixing this problem.  
25 One approach is noted in the Sublett reference itself, the main one. They

1 used a combination of an alkali and earth metal, I believe, or an alkali and  
2 alkali/earth metal or something like that in combination with titanium.

3                   The other approach is suggested in the Small reference. It's the  
4 article that says you can use some additives. There are some other  
5 approaches out there suggesting you can use a phosphite additive or a  
6 phosphorous containing additive.

7                   What the art doesn't suggest, however, is to go low on the  
8 titanium catalyst amount. Of course, looking back on it, it may appear to be,  
9 well, that's obvious. But we have to consider in the context of the invention  
10 or in the context of the art, the practice in the art which is to use an amount  
11 greater than about 50 parts per million.

12                   For whatever reason, for commercial reasons or whatever, that's  
13 what they use. But of course the art disclosed in broader ranges than that.

14                   But functionally what's been disclosed or in practice in the  
15 primary reference of Sublett, the examples there at 50, and in Small, the  
16 article, the polycarbonate or the polyester that they used had 68 parts per  
17 million titanium. That's on -- or Smith, actually. Sorry. My references to  
18 Small should be to Smith so far.

19                   The copolyester had 68 parts per million titanium. That's on  
20 page 4234 of the Smith article.

21                   In any event, higher than 50 parts per million, that's what's been  
22 traditionally used. And our inventors used lower than that 30 parts per  
23 million or less than in addition to reduced yellowness which may arguably  
24 be expected. They get some unexpected benefits, which are the combination  
25 of the increased thermal stability and the increased melt stability.

1                   JUDGE PAK: In your example by embodiment in the  
2 specification --

3                   MR. PHAN: Excuse me?

4                   JUDGE PAK: The data you are relying on to show unexpected  
5 results, what kind of catalyst are you using?

6                   MR. PHAN: It's a titanium catalyst.

7                   JUDGE PAK: What kind of complex or what kind of  
8 compound?

9                   MR. PHAN: That I don't have information on. I don't have the  
10 particulars of the catalyst system. If you need that, I can get it.

11                  These are -- I have been told these are commercial -- the ones  
12 with the 50 parts per million titanium, those are commercial, and the ones  
13 that are lower are newly commercialized polyester. So I can get that  
14 information for you if it's important. But I don't know -- I don't have the  
15 specifics on the exact complex.

16                  JUDGE PAK: I notice that your composition claim as well as  
17 your process limitation, which defines the supposedly claimed composition,  
18 seems to be very broad. You are claiming thermal plastic composition  
19 comprising, which means it's open-ended. You can include other  
20 components.

21                  And also in the catalytic area, you seem to be claiming any  
22 titanium containing catalyst compound, which your result can be  
23 extrapolated to support any and all titanium containing catalytic compounds.

24                  MR. PHAN: I think that's an interesting question. From what  
25 we have in terms of what the art is that's been applied or what we're aware

1 of, the specific -- the effects aren't tied specifically to the complex or the  
2 way that the titanium is introduced.

3 Well, certainly there is some other references that talk about if  
4 you use titanium and an alkali metal, you don't get this problem. But I think  
5 in terms of reduction, it is believed to be attributable to titanium metal.

6 JUDGE PAK: So if that's the case, you don't really know  
7 whether your composition is any better than the composition produced in the  
8 primary reference, that is, the one that contains a polyester produced with  
9 the titanium alkaline complex catalyst.

10 MR. PHAN: You are correct. We do not know the properties  
11 of our -- of the ones that have been exemplified. In our examples, the blends  
12 in our examples relative to the blends of Sublett, the primary reference, that  
13 we do not -- let me find Sublett here.

14 You are correct. Without more information, we can't say that  
15 one can be directly compared to the other. If that's needed, I can go back  
16 and ask and find out more information on that.

17 JUDGE PAK: One more question. One of the prior art teaches  
18 adding phosphite to deactivate the titanium usually present in the  
19 composition. Isn't that, I guess, equivalent to also eliminating the titanium  
20 catalytic activity?

21 So what's the difference. One skilled in the art having some  
22 level of common sense, you know, will have two options, either remove the  
23 catalytic activity by deactivation or just take it out so it doesn't -- it performs  
24 the same deed.

25 When you remove it, I guess, is equivalent to being deactivated  
26 because it's no longer present in the composition.

1                   MR. PHAN: Again, that's certainly a very interesting question.  
2   As you may be familiar, it's not always that simple because the titanium is  
3   added in there for a reason. That is to make the reaction go faster.

4                   And it has to be there in a certain amount to get the reaction  
5   going to an extent that is acceptable. And then you can't simply just take it  
6   out -- you can take it out, but then you wouldn't get the reaction you want to  
7   begin with.

8                   And I think that's why -- that's been -- even though without  
9   evidence, I believe that's been the thought contemplated by the prior art,  
10   because the approach has been to try to neutralize the effect of the titanium  
11   catalyst but not to take it out or to reduce its amount.

12                  JUDGE PAK: Mr. Phan, thank you for coming, unless you  
13   have any additional statements you want to make.

14                  MR. PHAN: One final statement. I think, unfortunately, as  
15   you can probably see from the prosecution, the focus of it hasn't been in the  
16   right place. We have been arguing about rejections that may not be  
17   appropriate or the inquiry hasn't been appropriate.

18                  The inquiry ought to have been the things that we discussed  
19   here. And if that's the case, I just ask for the opportunity that those things be  
20   spelled out and we can go back and try to address some of those deficiencies  
21   if they are perceived to be there.

22                  Thank you for your time.

23                  JUDGE PAK: Thank you for coming.

24                  (Whereupon, the proceedings at 10:14 a.m. were concluded.)